THE PROFESSIONAL GEOGRAPHER

UNIVERSITY OF NEBR.
LIBRARY

The Journal of The Association of American Geographers

JUL 14 1959

SOCIAL STUDIES

EVELYN L. PRUITT, Editor

Volume XI JULY 1959 Number 4

OUTSTANDING McGRAW-HILL

GEOGRAPHY BOOKS

ESSENTIALS OF GEOGRAPHY

By OTIS W. FREEMAN, State Teachers College, Indiana, Pennsylvania; and H. F. RAUP, Kent State University. New Second Edition. $7.75.

The revision of this highly successful introductory text, rewritten and rearranged, covers the principles of geography, and affords a brief survey of the continents, with emphasis on the human relationships in different enviroments. All statistics have been brought up to date. A new glossary of technical terms is included. A teacher's manual is available.

WEATHER AND CLIMATE

By CLARENCE E. KOEPPE, formerly San Diego State College; and GEORGE C. DeLONG, Eastern Michigan College. 341 pages, $7.50.

This concise nontechnical treatment of meteorology and climatology covers such weather principles and processes as the nature, extent, and composition of the atmosphere; weather elements; air masses and fronts; maps and forecasting.

LAND OF THE 500 MILLION: *A Geography of China*

By GEORGE B. CRESSEY. 410 pages, Text Edition $7.50.

The most authoritative, up-to-date, and readable book on the subject. As a study in geography, it forms a preface to current political and economic problems. The central focus of the book is "man and his activities" (social, economic, and political). The volume ranges over a broad field, from geology and meteorology to economics and geopolitics. It includes an evaluation of potentials under the Communists. Contains excellent new maps and a wealth of fine recent photographs.

ASIA'S LANDS AND PEOPLES

By GEORGE B. CRESSEY, Syracuse University. Second edition. 615 pages, Text Edition $8.95.

A thoroughly revised edition of a work that geographers everywhere regard as the definitive comprehensive treatment of the physical environment and human problems of Asia, with special emphasis on China, Japan, the entire Soviet Union, and India. Separate chapters deal with such new countries as Korea, Pakistan, Israel, and Indonesia. The maps are revised to show new boundaries, and almost 100 new photographs are included.

McGRAW-HILL BOOK COMPANY, INC.
330 West 42nd Street **New York 36, N. Y.**

Send for copies on approval

THE PROFESSIONAL GEOGRAPHER

CONTENTS

Page

PROFESSIONAL NOTES
"Geography: As Some Others See It" by John W. Alexander . . 2
"Slide Rule Method for Mapping Quantity Distributions" by Richard J. Kopec 5
"The Expanding Territorial Sea" by Lewis M. Alexander . . . 6
"Plant Location Advertising" by William Whipple Abbe 8

REGIONAL DIVISIONS 13

LETTERS TO THE EDITOR 14

ANNOUNCEMENTS & REPORTS 17

NEWS FROM GEOGRAPHIC CENTERS 22

PERSONAL NEWS 26

NEW PUBLICATIONS 27

The Professional Geographer. New Series. Volume XI, Number 4, July 1959. Contains professional notes, news, and reports of the Association of American Geographers. Published bi-monthly by the Association of American Geographers at the Library of Congress, Washington 25, D.C. Annual subscription $5.00; single copies 85 cents. Editor: Evelyn L. Pruitt, Geography Branch, Office of Naval Research, Department of the Navy, Washington 25, D.C. Second class postage paid at Washington, D.C.

The Association also publishes The Annals of the Association of American Geographers, which contains professional papers, presidential addresses, and abstracts of papers delivered at annual meetings.

GEOGRAPHY: AS SOME OTHERS SEE IT

John W. Alexander
University of Wisconsin

It is appropriate for scholars to review at least occasionally the problem of relationships with people outside their discipline. This is particularly true for cultural geographers who are dependent upon responses from people for much of the information upon which their research is based and which, therefore, suffers when nongeographers are indifferent to us. In the author's opinion there is a serious gulf of misunderstanding separating professional geographers from the lay world, a gulf which we need to take seriously.

At the outset it must be recognized that geographers themselves are not in complete agreement as to the core concept of their discipline. However, there seems to be increasing acceptance of the concept that geography "has the distinctive function of studying the integration of heterogeneous phenomena in sections of space, the areas of the earth's surface." Or in different words, geography deals with "the associations of phenomena that give character to particular places." The geographer studies areas, or regions, each of which has some sort of homogeneity.

If geography is developing into a study of areal differentiation, of regions, the question is: do nongeographers recognize it as such a discipline? Experience convinces me that they do not. Students, colleagues, and the lay world display an ignorance of geography which should disturb our profession. Most of them think geography is the study of the physical environment, particularly landforms, climate, and natural resources. For those who recognize that geography also deals with people, the unifying link with landforms and climate is obscure. Widely-held opinions are that geography is either the twin sister of geology; or a medley of excerpts from geology, meteorology, pedology, hydrology, oceanography, botany; or the science of the environment's control on human endeavor; or memorization of locations. At best, we seem to be unknown; at worst, we are not respected.

This may pose no problem for physical geographers, but it handicaps cultural geographers in their field work, especially in gathering data from personal interviews. The purpose of this article is to arouse concern about the problem.

There are at least three measures for improving our rapport with nongeographers:

1. We need to upgrade the quality of research. A good product will command respect for its producers and eventually will become known.

Surely this is a major goal of our Association and a generally acknowledged necessity, but it needs constant demonstration. In addition, there are two other measures which, if coupled with high quality research, may help solve the problem more quickly.

2. We need to improve communication with those outside our discipline. To be sure, we must communicate within our profession, but that will not bridge the gulf. At present the strongest incentive is to write only for ourselves; writing for the general public is not encouraged. With most of us this is immaterial because we not only prefer to write for scholarly journals but also lack the gift for popular writing. But is there nobody in our midst endowed with both an esteemed professional standing and a facile pen to convey our concepts to the lay world? If such a member should appear, (one able and motivated to cast geographical truths into molds for newspapers and national magazines,) would we recognize by means of salary increases and promotions that such performance, if well done, was a contribution to professional geography? My general impression is--no. But, if we honestly believe that knowledge of geographic principles enriches one's understanding of the world, why be satisfied with keeping it to ourselves? Why not encourage some in our profession to write for the general public, for the good of geography as well as society? At present, the public is missing much of our message.

3. A third strategem for bridging the gulf might be a new name. Does geography really connote the concepts of our discipline? Geography is derived from two Greek roots geo (earth) and graphos (description of). This is too inclusive, since geologists, pedologists, botanists, oceanographers, meteorologists, and others also describe the earth or portions of it. Surely nobody would contend that geography is the total of all these disciplines, each of which analyzes a distinctive component of the earth. Many years ago geography may have been a satisfactory title, but the inherent meanings of its two roots are no longer appropriate for the discipline now evolving.

Admittedly, the crux of the problem is that within the profession itself we disagree as to our purpose. For those who think geography is a study of the natural environment and its relation to human endeavor, geography may be an acceptable title. But, for those geographers who think of geography as the analysis of regions, the label "geographer" can be a handicap. The name simply does not connote regionalism. It would not be difficult if others had no idea what the name meant, or even an incomplete concept. Scholars from every discipline bemoan the fact that the public does not fully understand them. The trouble facing geography is that the public has an idea, one that is not only incomplete but also untrue.

Would it be out of order to suggest an alternative name? If a name could be found that would improve our rapport with nongeographers, it at least deserves a trial. Even if it has no positive appeal, it might exert less hindrance as we try to bridge the gulf.

Thinking toward an alternative I proceed on the premise that geography is a science and that its objects of study are regions. Why not call it just that--regional science? In recent months I have sampled opinions of nu-

merous people about this proposal. In the lay world the reaction has been enthusiastic. Among academicians outside geography the response has been generally favorable. Among geographers, one third have disapproved, a third have been noncommittal, and a third, almost all of whom are cultural geographers have been favorable. On the other hand, physical geographers see nothing wrong with our present name. Whatever the name of our profession, it seems to me that it should convey the concept of regional study and identify us as regional analysts. Geography does not.

To be sure, there are reasons for clinging to "geography" in spite of what, in my opinion, are shortcomings. Tradition is a powerful force. The sentiment "we have always done it this way" cannot be dismissed. Attachments to traditional names are strong and have subjective value, especially if "battles have been fought" under a name. But the question is, does that title, which we esteem, handicap our communication with outsiders. A name, no matter how dear to us, which hampers that communication needs defense on some basis other than tradition. Perhaps a split in the profession would develop if some departments adopted new labels while others clung to "geography." This need not be disasterous. In political science, for example, scholars in departments identified as "political science" enjoy rapport with colleagues from departments of "government." Some might argue that regional science should be avoided because other disciplines give attention to regionalism. Yet, a history department adopts the title of "history" even though economists and sociologists study temporal changes.

Another argument is that some geographers do not teach some topics with the regional approach. Such courses could still be legitimate components of regional science on the grounds that students were acquiring knowledge basic to regional analysis. On the other hand, it is possible that under "geography" a topical course may more properly belong in the systematic discipline.

If a new name is given a trial, it would seem best to use it along with the old name temporarily, rather than suddenly abandoning "geography." A department interested in this experiment would do better to identify itself as Geography (Regional Science) during a transition period. Since precedent is such a powerful force, experimenting with a new name might best be tried by a new department just being established.

To summarize, the geography profession seems rather complacent about the abyss of misunderstanding separating it from nongeographers. If our concepts contribute to understanding this world, they should be disseminated, not just exchanged among ourselves. My impression is that we are doing a rather poor job of this; the gulf surrounding us needs bridging. The basic requirement is improved research on our part. Dissemination of truths thus revealed would be expedited if some in our profession with the desired qualifications would write for the nongeographic market. Why not recognize such bridge-building as a contribution to the profession? Finally, a reconsideration of our name is suggested because the present name connotes either physical environment or mere place names; it does not fit the chorographic discipline which is evolving. The present

connotations are so deeply ingrained in the public's mind and so inherently affixed to the name that cultural geographers are handicapped by their title. Our efforts in research and communication will be facilitated by a label such as regional science, which actually names the distinctive attribute of our discipline.

SLIDE RULE METHOD FOR MAPPING QUANTITY DISTRIBUTIONS

Richard J. Kopec
Rhode Island College of Education

A discouraging factor in the construction of graduated symbol maps is the necessity and tediousness of determining the proportional radii which will represent the data. In mapping population distribution, for example, areas of circles or the volumes of spheres must vary proportionately with the amount of population. When the circle is the symbol used, the formula for its area is $A=Pi \cdot r^2$, and because Pi is constant, we are only concerned with the relation of each population figure with the square root of the smallest population to be presented. The size of the circles thus varies with the square root of the population they represent. The same is true for cube root symbols in which case the formula is $V=4/3Pi(\frac{1}{2}d)^3$.

It can easily be imagined that much work would be required to determine the proportional radii for every graduated symbol. However, in addition to other satisfactory techniques, use of the slide rule offers a fast and simple method for solving this problem.

For rapidly determining proportional radii, we are concerned only with the B and C scales of the slide rule (Figure 1). The C scale directly indicates the square root of the B scale. Now, if we allow the B scale to represent population and attribute to the number one on that scale a value of one hundred people, and if we allow the C scale to represent radii and attribute to the number one on that scale a value of one tenth of an inch, proportional radii will be easily determined. For instance, knowing that the number one on the B scale equals one hundred people which is read on the C scale as one tenth of an inch, moving the indicator shows us that nine hundred people will be represented by three tenths of an inch; and so on. It is simply a matter of moving the indicator back and forth. Of course, any fraction of an inch could be used as the radius of the smallest symbol.

For cube root, the K and C scales are used. The cube roots of figures on the K scale are read on the C scale. The procedure used in determining proportionate area is followed exactly for finding proportionate volumes.

At times, a problem may arise when the scale of a map warrants the use of a symbol whose radius will not coincide with the multiples as presented by the closed slide rule. For example, if it is decided to represent a population of nine hundred with a square root symbol whose radius is to be one half inch (5/10), we find that the aforementioned method will not work, but the solution is simple. As shown on Figure 1, the C and D scales are alike, so the B scale not only gives the square of the C scale but also

of the D scale. Looking now at Figure 2, if the indicator is moved to the five (or 5/10) on the D scale, and the nine (or nine hundred people) on the B scale is aligned with the five on the D scale, proportional radii may again be obtained. Nine is still the square of three on the C scale but the C scale no longer represents radii. The radius is now represented by the five on the D scale. Four hundred people would now be represented by a radius of 3.34/tenths and one hundred people by 1.67/tenths instead of one tenth. Shifting the slide will allow for translation of the values beyond the D scale. As before, proportional volumes may be solved by following the procedure used for proportional area.

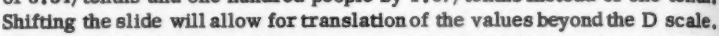


Figure 1

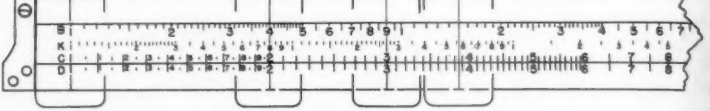


Figure 2

Although there are other methods for achieving the same results, it is felt that this rapid and easy technique offers many advantages.

THE EXPANDING TERRITORIAL SEA

Lewis M. Alexander
Harpur College

The extension of national claims to sovereignty over adjacent waters is a trend whose development is beginning to threaten some of the vital sea areas of the world both from the fishing and navigational points of view. Until well into the nineteenth century there were at least periodic moves in the direction of reducing extravagant claims to offshore waters, but since about 1900 the movement has been toward expansion rather than reduction of claims. At the time of the Hague Conference for the Codification of International Law in 1930 eight states claimed more than three miles as the breadth of their territorial sea. By 1951 twenty-three independent countries claimed breadths in excess of three miles and by the end of 1958 forty-three claimed four miles or more, and of these twenty-one had territorial seas of twelve miles or greater. These figures cannot be precise

because of the vaguely-worded claims of some countries, particularly in Latin America. Ireland, West Germany and Monaco claim breadths "in accordance with international law" and for seven other coastal states no data are available.

The efforts of the British and United States delegations at the Geneva Conference on the Law of the Sea last spring to win support for a universal six-mile territorial sea would seem to have greatly weakened the position of the "three-mile" states, although the failure of any one resolution on breadth to win the necessary two thirds votes means that at the next Conference, to be held in the spring of 1960, there is still the opportunity for adoption of a three or twelve-mile limit, or of some compromise provision between the two extremes. Actually, the publicity given to the matter of breadth has tended to obscure some of the side issues of the problem. One of these is the manner of delimiting the baseline from which the breadth is measured. According to the Conventions adopted at the Geneva Conference straight lines twenty-four miles or less in length may be used to close off bays, while under certain conditions countries are free to draw a series of straight baselines along their entire coasts connecting headlands, offshore islands, and even drying rocks and shoals on which lighthouses, or other installations permanently above water, have been erected. One of the basepoints Norway uses in drawing its straight baselines is fifty-one miles from the mainland coast. How far off the coast might the basepoints be for Greece, Japan, or Canada? In some cases variations in the location of the baseline may involve more water area than would a change in the breadth of the territorial sea itself.

No provision was made at Geneva for archipelagoes, although both the Philippine and Indonesian Governments have indicated their intentions of drawing straight baselines joining the outermost points of their islands, with the waters within the baselines having internal status. By similar actions much of the Aegean Sea, the Caribbean, and the western Pacific could be closed to foreign navigation and fishing. There were no regulations laid down with respect to historic waters, but the matter was referred to the U. N. General Assembly for special study. Although some waters have long been recognized as having a special historic status there is the possibility of a trend developing whereby new and extensive claims are made by some coastal states to waters which are "historically" theirs. Recently, for example, the Soviet Union claimed historic rights to Peter the Great Bay at Vladivostok.

Another issue concerns zones of exclusive fisheries adjoining the territorial sea. There is a growing tendency for governments to distinguish between regions of national sovereignty and those in which marine resources are to be protected. This principle finds its clearest expression in Iceland's actions, whereby a four-mile territorial sea is supplemented by an eight-mile zone in which fishing by foreigners is prohibited. Legislation of this sort by Norway, Denmark (for Greenland and the Faeroes), Portugal, Canada, and the United States would close off some of the richest fishing grounds in the world to foreign fishermen. Already the term "fisheries conservation" is coming to be associated in many people's minds with the

whole of the adjacent continental shelf (or of offshore zones up to 200 miles in breadth if no shelf exists). Sometimes, as in Iceland, unilateral extensions of claims may be actively disputed, but more often they become de facto, if not de jure restrictions on foreign vessels. One difficulty is that there are few measures, short of naval action, which may be taken against such claims. Since the end of World War I only three cases involving national rights in coastal waters have been brought before the World Court.

The pace at which sea areas are being partitioned appears to be increasing. Communist China and Iraq have recently joined the twelve-mile group. Turkey and Poland may follow. What of the coastal countries in Africa which are to achieve self-rule in 1960? Will they adhere to the conservative claims of their former Mother Countries or will they too demand twelve miles for their territorial seas?

As international fishing grounds are closed off and as international sea routes come under the regime of internal waters it is well to examine the various offshore areas of the world in terms of their relative value both to the coastal country and to foreign states. If the present trend toward extension of claims continues - and if the claims are upheld - they may soon have far-reaching effects on the economies of fishing nations such as Japan, Great Britain, and West Germany, on the maneuverability of warships in coastal areas, and on freedom of air navigation in these regions. Modern nationalism, as expressed in the closure of offshore waters, is a threat whose potential is only beginning to be recognized by the maritime countries of the world.

PLANT LOCATION ADVERTISING

Wm. Whipple Abbe
U. S. Department of Commerce

The demand for services in plant location and area development has been increasing rapidly in the last ten years. One way to gauge the demand for plant location services is to study paid advertising in the field. There are a number of publications which carry substantial amounts of plant location advertising. In the newspaper field, the Wall Street Journal is outstanding and so is the Journal of Commerce which twice a year has a supplement on plant location. In the magazine field, Industrial Development, Business Week and Fortune carry a number of these ads. A sprinkling is also seen in Time and Newsweek. For the analysis made in this article, plant location advertising was selected from the Wall Street Journal over a six-month period from August 1958 to February 1959. During this period, 283 ads pertaining to plant location were printed.

This survey of plant location advertising was made primarily to find the answers to these questions: who does plant location advertising, what factors are advertised, to what extent are maps used and what are the benefits to be reaped from this type of advertising? It is hoped that this survey will also indicate the variety of ways in which the work and interests of geographers fit into this field.

TABLE I

Type of Advertisers*	Number
1. State Government	28
2. Utilities, Gas & Electric	24
3. Joint Sponsorship	24
4. Railroad	17
5. City Government	14
6. Bank	12
7. Consultant	9
8. Foreign Country	9
9. Industrial Development Committee, Council, or Corp.	8
10. Chamber of Commerce	6
11. Newspaper	4
12. Industrial Park	3
13. County Government	2
14. Newly Established Plant	2
15. Federal Government	1
16. Port Authority	1

*Type counted only once even if more than one ad was run.

A tally of the ads used in this survey shows in Table I the kinds and numbers of organizations which employ this means of public announcement. Most of these organizations offer some sort of plant location service. The service varies from newspapers which generally act as a contact only, to states and utility companies which perform very elaborate personal, hand-tailored plant location studies. Many states devote a great deal of time and money to their plant location service. For instance, Connecticut has put out a number of individual studies on plant location factors. Some of these deal with location factors for specific industries, such as the chemical industry, and the electronic industry, while others are on single location factors, such as transportation. Arkansas produced an extremely elaborate state brochure which they call an encyclopedia. Included is an atlas of the state resources.

Many times, two or more groups will work together in advertising and promoting industrial sites in certain areas. An analysis of the ads shows that 9% of the companies advertise this way. Most frequently this is a combination of a newly established plant and a state agency. Other common combinations are an electric power company and a town, a bank and a new plant, and a county and an industrial development committee.

There are over 3,000 industrial development committees in the United States, but in the case of these committees, the Wall Street Journal does not provide a good index of their activities. Probably no industrial development committee has been more successful than the one in Memphis, Tennessee, which has sponsored its own ads and also has been very effective in getting other civic-minded groups to help pay the bill, such as the Shelby

County Government, City of Memphis Light, Gas & Water Division, National Bank of Commerce, Union Planters National Bank, and the First National Bank. Group advertisers often sponsor an industrial supplement in a Sunday paper. In this way, banks, industries and other development groups share the cost by running their own ads. The state of New Jersey and Massachusetts have both had big color supplements in the New York Times.

This industrial development sector of our economy probably uses more maps in its advertising than any other group with the possible exception of actual map producing firms. Over half (55%) of the ads utilized some sort of map. All of the maps were used basically to pinpoint locations. Generally, outline maps were used, some had place names added, and a few showed additional data. Over 50% of the maps were used to show the general region in which specific plant locations were to be found, and 25% were local maps showing nothing outside the area of interest. For instance, a town advertising industrial sites showed just the boundary of the town area and nothing beyond. The location of the town in the county, state or regional area was not shown. In general, these local area maps are probably the least helpful in orienting the reader. Only 10% of the advertisers used a map of the entire country which indicated locations relative to the nation. Some of the maps were pictorials of the resources of the area and some showed detailed electric service areas. A few of the maps were schematic or of imaginary areas, merely indicating that a map was useful in location analysis. Some advertisers used aerial photographs of plant sites to show location. Someone with a cartographic background could immensely improve the maps used in advertising and, along with other geographic talents, be extremely helpful in aiding these plant location firms to present a more palatable ad.

There are a great number of advertised location factors. (See Table II). By far, the most highly tooted factor is transportation. Next comes good living conditions, and these include such factors as churches, cultural facilities, housing, medical facilities, recreational facilities, and schools. Other principal location factors advertised are markets, labor, and power. Another category, which perhaps should be rated even above all the rest, is the proximity of an area to resources and raw materials. The principal natural resource advertised is water. Many areas emphasize their own particular natural resource or such resources as college graduates and trained "brain power." For instance, the New England Electric System headlines one of its advertisements as "63 Ways to Corner the Brain Market," to draw attention to the reservoir of professionally trained young people in the area. An ad emphasizing brain power was put out by the Public Service Electric Gas Company in New Jersey, under a headline "Ingredient of Industrial Success: Research", to point out that an estimated 21,000 scientists and engineers are active in New Jersey laboratories. "Know-How", another twist of the brain power resource, is claimed by the Wisconsin Industrial Development Commission, a small industry advisory board which offers the assistance of 12 highly successful retired business men to advise businesses and industries in the state.

TABLE II

Location Factors Advertised	Total Times Repeated
1. Climate	28
2. Community Attitude & Planning	9
3. Financing & Banking	19
4. Geographical Location	3
5. Government's Friendly Attitude	13
6. Growing Room	4
7. Industrial Acreage	19
8. Industrial Park	15
9. Insurance Rates Low	1
10. Labor	62
11. Living Conditions	
a. Churches	2
b. Cultural Facilities	6
c. Friendliness	2
d. Housing	5
e. Medical Facilities	1
f. Recreation	17
g. Schools	12
h. Generally Good Living	23
12. Location Services	36
13. Markets, Distribution Center, Proximity to Population	68
14. Power	61
15. Plant Ready to Occupy	6
16. Redevelopment Program	6
17. Resources in Close Proximity	
a. Natural	
(1) Water	35
(2) Natural Gas	18
(3) Others	39
b. Others	
(1) College Graduates & Brain Power	4
(2) Semifinished Products	34
18. Tax Advantages	
a. Low or Favorable	25
b. Exemptions	12
19. Testimonials by Co. Executives	7
20. Transportation	77
a. Ports	8
21. Yankee Ingenuity	1
22. Zoning Laws Favorable	7

Climate ranks high as one of the location factors to be considered in any plant location. Much is said about the sunny warm climates of the

South, but the northern states also proclaim their climates to be best. For instance, a plant location ad by the Hartford National Bank and Trust Company quotes from Ellsworth Huntington's Civilization and Climate that it is a proven fact that climatic energy generated by seasonal and day to day variations in weather is directly linked to factory output; the more Climatic Energy, the more output. Connecticut, they claim, has plenty of Climatic Energy.

The competition for new plants in areas is not limited just to the United States. A number of ads solicit U. S. industrialists to build new plants outside the United States. Ads, for example, come from Quebec, "indeed your land of opportunity", and Manitoba, offering dependable low cost electric power and manufacturing opportunities. Like Connecticut, Manitoba has prepared studies on the location factors for specific types of industries, including metalworking, woodgrain plywood, glass containers, plastics, frozen foods, potato chips, textiles, and apparel. Australia offers opportunities for industries in a rapidly expanding local market and a proximity to Southeast Asian markets. The Australian ads were sponsored by the Bank of New South Wales and the Australian New Zealand Bank, Ltd. The Electric Company of Chile, Ltd. put out a bid-for-industry ad in which they say "you'll find a welcome in Chile", and they list industries that are marked for development. "Growing Opportunities for Industries in Modern Brazil" is proclaimed by another electric company.

Industrial parks which are highly restricted and closely zoned industrial areas are also using this broad brush advertising for new industries. The Cabot, Cabot and Forbes Company which has developed 12 extremely successful parks in New England, most of them on Route 128 around Boston, is now advertising its new park in Philadelphia. The big advantage of the industrial park is that utilities, roads and rail spurs are already installed, zoning is taken care of and a minimum of work is needed to put a plant into operation. Cities with redevelopment programs also advertise a number of opportunities for new plants.

This survey has shown that (1) state and city governments, gas and electric utility companies, railroads and banks are the principal advertisers; (2) the principal location factors advertised are transportation, good living, markets and labor; and (3) a majority of advertisers use maps in their advertising displays. But why do these various groups pay for all this high priced advertising? Obviously, to bring more profits into the company till or more tax revenue into the government coffers. The purpose is not always mercenary, however, as sometimes the basis for the industrial development promotion is to relieve unemployment in the area or to get money to build hospitals, schools, or other needed community facilities. The governments are, however, in a precarious situation for if good sound planning does not go into plant location analysis, expenditures of tax dollars can increase faster than income from tax revenue.

The field of industrial plant location, as illustrated by its advertising, is one in which geographers can use many of their abilities. It is a field that is interesting, profitable, and obviously in need of geographers.

REGIONAL DIVISIONS

East Lakes

The spring meeting of the East Lake Division was held on May 1 and 2 in Toledo, Ohio. On the evening of May 1, an illustrated talk and business meeting were held in the Toledo Area Chamber of Commerce Auditorium. At the business meeting an invitation was accepted to hold the spring 1960 meeting at Flint Junior College, Alfred Meyer reported on the fall meeting to be held in celebration of the Valparaiso University centennial, Lawrence Sommers outlined the geography research program of the Office of Naval Research, and Lyle Fletcher reported the progress on plans for the NCGE annual meeting scheduled for Thanksgiving weekend in Detroit. A talk on Urban and Port Development of Toledo was given by Lawrence F. Murray, Plan Director of the Toledo-Lucas County Planning Commissions, and William Beckett, Manager of Statistics of the Toledo-Lucas County Port Authority.

On May 2, about 75 geographers participated in a field trip made by bus along the Maumee River during the morning. Stops provided an excellent opportunity to get photos of coal-loading machinery in operation, as well as other dock facilities. During the afternoon, a boat trip was taken along the waterfront to observe the waterfront industries, such as grain elevators, blast furnaces, oil refineries, and ship building. Albert G. Ballert of the Great Lakes Commission planned the field trips and made the necessary arrangements for the meeting.

---John F. Lounsbury

New York Metropolitan

The Metropolitan Division held two meetings during 1959. Both concerned aspects of the Metropolitan Region. The first, on March 13, was a discussion of "Current Developments in the New York Metropolitan Region" by Douglas S. Powell of the Regional Plan Association. The American Geographical Society was host for this meeting. The second meeting was the annual field trip, held on May 16. The trip concerned conservation and recreation problems in the region. The group was fortunate in having William A. Niering of the Connecticut College Botany Department and Mrs. Anthony Anable, of the Mianus Gorge Conservation Committee, to lead a walk through the Mianus Gorge Preserve. This preserve includes a spruce climax forest, one of the two climax forests remaining in the Metropolitan Region. Later, at the Sherwood Island State Park, Connecticut, Dr. Niering and Louis Darling (Connecticut Conservationists) explained the problems and possibilities of conserving coastal swamp lands. Charles Ellis, of the Yale Geology Department, discussed beach erosion in the Sherwood Island area and its relationship to recreation and the conserva-

tion of coastal swamps. The specific conservation problems discussed during the trip were related to the general problems of the Metropolitan Region by Stanley B. Tankel, Project Director of the "Parks, Recreation, and Open Space Project" of the Regional Plan Association. This excellent and extensive program was planned and organized by Charles Morrison of the American Geographical Society.

A short business meeting was held on May 16. The group voted to explore possible merger with the New York-Ontario Division at a joint meeting to be held in the fall of 1959. The following slate was unanimously elected to serve during 1959-1960: Chairman, Charles Morrison; Vice Chairman, Robert B. McNee; Secretary, Daniel Jacobson; Treasurer, Anastasia Van Burkalow; and Councilors, William Goodwin and Paul Lee.

---Robert B. McNee

LETTERS . . . . .

Dear Editor:

In examining the Hongkong U. S. Consulate General's translations: Survey of the China Mainland Press this morning I came across an item that might be of interest to the AAG membership, if there is a place for such notes in The Professional Geographer. The following from the March 3, 1959 Survey of China Mainland Press was carried under the New China News Agency-English language, Peking, February 25, 1959 dateline:

"A rich exchange of experience took place at the ten-day National Conference of Surveyors and Cartographers and associated scientists and experts which ended in Wu-Han on Sunday, the Kuang-ming Jih-pao reported here today. 1,400 specialists in this field attended and more than 1,900 papers were presented at the conference.

"The National conference was convened jointly by the State Bureau of Surveying and Cartography and the Chinese Society of Surveying and Map Making. It was also attended by representatives of the departments of metallurgical, coal, oil, machine-building, electrical and building industries, and of water conservancy, railways, agriculture, land reclamation, afforestation and geology.

"In a report to the conference, China's achievements in surveying and cartography during the past nine years since the founding of the People's Republic of China were reviewed by Chen Wai-ou, Director of the State Bureau of Surveying and Cartography.

"He said there were now ten times as many surveyors and cartographers as in the pre-liberation China. Aerial surveying had been used over a considerable part of China's total area, in addition to ground surveys and topographical surveys for major projects.

"Eighty-two million atlases were published last year and 250 publications on surveying and cartography had come off the press during the past few years.

"An exhibition on surveying and cartography was held during the conference."

---Herold J. Wiens
Yale University

Dear Editor:

The enclosed cutting dealing with two geographers may interest American geographers. /Clipping from Daily Telegraph, Sydney, April 16, 1959, announced that Professors Griffith Taylor and Frank Debenham, two members of Captain Robert Scott's last Antarctic expedition in 1910, were awarded honorary degrees at the University of Sydney. Ed./ I received D.Sc. from the same University in 1916--so this time they gave me D.Litt. However, I have always claimed to be a Scientist. Still, having 40 books to my credit, I should have some touch of "letters," I suppose.

Recently the Institute of Australian Geographers has been founded with 50 Professional Fellows. When I think of the years 1904-1920 when I was the sole (more or less) professional geographer in Australia--this seems a big growth. They elected me first President.

A few months ago the third base in Australian Antarctic in longitude 61° E. was named Taylor. Two old friends (Mawson and Davis) are responsible for the first two bases' names.

---Griffith Taylor
Seaforth, New South Wales

Dear Editor:

Miss E. Joan Miller, in commenting on Yi-Fu Tuan's letter (May 1959 issue of The Professional Geographer) omits from her arguments a fundamental facet of geographic studies, namely, consideration of the contemporary appreciation of the landscape. This facet has been suggested by Dr. John K. Wright as "geosophy" or the study of geographic knowledge from any or all points of view ("Terrae Incognitae: The Place of the Imagination in Geography," Annals, XXXVII, March 1947, p. 12). R.H. Brown had noted the importance of this type of study in the preface to his Historical Geography of the United States, where he suggested, "The past geography of a region is only partly told when account has been taken of the cultural landscape. The picture must be extended to include the natural setting--land surface, vegetation, soils, climate, not as we know it today but as it was known or understood during the period under consideration." Landscape paintings are valuable tools in a study of that knowledge and understanding.

To criticise them because "it is all too easy to assume that a landscape painting represents what is there geographically and that the facts of physical and cultural geography may be read from it," is to accuse landscape paintings of a quality not normally associated with them. I doubt whether landscapes have ever been held up to be accurate portrayals of the facts of the scenery. Indeed, when the art has achieved a photo-

graphic detail it has been criticised because the subjective appreciation of the scene has been subordinated to "accuracy." The value of the paintings to the geographer lies in this subjective appreciation by the painter of the scene before him; that he chose to show certain elements is a clue to his attitude to the land itself and may illustrate what was thought attractive and desirable in the contemporary landscape. Such clues may enlighten study of past cultural landscapes and may help to explain some of the problems posed. In this respect Sir Kenneth Clark's Landscape into Art (noted by Yi-Fu Tuan) is in part a geosophical study worthy of a place on the bookshelves of any historical geographer.

Finally, to suggest that photographs have a greater value to the geographer than paintings is a little unrealistic. Photographs are as subjective in their depiction of "facts" as paintings. They are as good or as bad (objectively speaking) as the photographer. The problem is, that although photographs may lie, they are usually credited with the truth and as a result, are and have been, valuable tools for propaganda purposes (for example in emphasizing Dust Bowl conditions in the thirties). The great value of photographs to geography lies in the possibility of comparing views of the same general area at different points in time (see the review of H. L. Shantz and B. L. Turner, Photographic Documentation of Vegetational Changes in Africa Over a Third of a Century, also in the May issue of The Professional Geographer), but there is still the problem of interpretation. The photographs of W. H. Jackson are a case in point; no objective, reappraisal of the areas he photographed having yet appeared, despite use of isolated photographs to "prove" arguments for or against the conservation movement. The objective interpretation of photographs of landscapes is as difficult as that of landscape painting, and while the use of photography in geographic studies has not yet been perfected, neither has the use of landscape painting. The geographer can do much more than he has with both.

---Ronald Leslie Heathcote
University of Nebraska

ANNOUNCEMENTS AND REPORTS

Report from Sweden

The annual meeting of the Svenska Sallskapet f. Anthro. och Geographie was held at the Grand Hotel, Stockholm on the evening of April 24, 1959. This date was the 79th anniversary of the return of A. E. Nordenskiold in the Vega from the discovery of the Northeast Passage. The chief event of the meeting was the awarding of the Vega Medal to Professor Mikhail Mikhailovitch Somov for his leadership of Arctic and Antarctic research, especially during the International Geophysical Year, 1957-58. The Medal was presented by Hans W:son Ahlmann, President of the International Geographical Union, and a recipient of the Vega Medal. Professor Ahlmann gave a brief review of Professor Somov's research after presenting the Medal. A Soviet documentary film of explorations of 1954 was shown. The meeting was concluded by a formal banquet at which Professor Valter Schytt lauded the research of the Russian explorers. Professor Somov responded with the aid of an interpreter. Professor Carl M:son Mannerfelt, president of the Society, presided.

---Leslie Hewes

Social Science Grants

The Office of Social Sciences of the National Science Foundation announces that the next closing date for receipt of basic research proposals in the social sciences is October 1, 1959. Proposals received prior to that date will be reviewed at the fall meeting of the Foundation's advisory panel and disposition will be made approximately four months following the closing date. Approved grants will be activated in time for work to begin in the second semester or summer of 1960.

The Office of Social Sciences supports basic research in anthropology, archaeology, demography, human ecology, sociology, social psychology, economics, economic and social geography, and the history and philosophy of science.

Proposals received after the October 1, 1959 closing date will be reviewed following the closing date of February 1, 1960, with activation of approved grants in the summer and fall of 1960. Inquiries should be addressed to the National Science Foundation, Washington 25, D.C.

International Congress of Orientalists - Leningrad 1960

The principal international organization for Asian studies is the International Congress of Orientalists, which meets every three years. The

next session is to be held in Leningrad, August 10-17, 1960, under the auspices of the Academy of Sciences of the U.S.S.R. It is hoped that the 1963 Congress may be invited to meet in the United States. The two American organizations most directly interested in the Congress are the American Oriental Society and the Association for Asian Studies.

Most of the proposed sessions at Leningrad deal with ancient history and philosophy, but there is ample room for area specialists.

---George B. Cressey

Application for Membership

The attention of those who wish to join the Association of American Geographers is invited to the application form in the back of this issue of The Professional Geographer. This form supersedes the one appearing in the March 1959 issue. In completing it, please supply all of the requested information.

---Richard S. Thoman
Chairman, Credentials Committee

Federal Government Needs Cartographers

An examination for Cartographer has been announced by the U. S. Civil Service Commission, for filling positions paying from $4,040 to $12,770 a year in various Federal agencies in the Washington, D. C., area. The majority of the positions to be filled are in the Army Map Service, Aeronautical Chart and Information Center, Geological Survey, Bureau of Land Management, Coast and Geodetic Survey, and Navy Hydrographic Office.

To qualify for these positions, applicants must have completed pertinent college study or have had appropriate technical experience in cartography, engineering, mathematics, or physics. Applicants who offer experience alone as a basis for qualification will be given a written test to determine their knowledge of the basic sciences underlying professional work in cartography. In addition to this basic requirement, applicants for positions paying $4,980 and above must also have had professional experience in cartography or have completed graduate study in geodesy, photogrammetry, or cartography.

Applications will be accepted until further notice and must be filed with the Board of U. S. Civil Service Examiners, Army Map Service, Washington 25, D. C.

Application forms may be obtained from many post offices throughout the country or from the U. S. Civil Service Commission, Washington 25, D. C.

AAG Census Advisory Committee

There is quickening interest among geographer-consumers of Census data as the time approaches for the decennial Censuses of Population, Hous-

ing, and Agriculture. At the Santa Monica Meeting the Council of the A.A.G. appointed a Bureau of the Census Advisory Committee "to cooperate with staff members at the Bureau of the Census and to suggest improvements which might make Census materials more valuable for geographic use." The initial recommendations of the Committee are reported in the March issue of The Professional Geographer (pages 19-20). In addition to sponsoring an address by Dr. Taeuber, Assistant Director of the Bureau, at the Pittsburgh Meeting the Committee deliberated at some length on problems facing geographer-consumers of Census data, and it appointed working parties to make specific recommendations in three major problem areas.

This note explains something of the background of the terms of remit of these three working parties with the hope that other geographers might be interested in giving some thought to the problems involved and in making suggestions to the working parties or to the Census Advisory Committee. Any suggestions should be sent to the Chairman of the Committee, John Fraser Hart.

One working party was appointed to investigate the use geographers make of Census data and publications (including map publications), and the needs of geographers for new data, publications, and maps. It was suggested that this investigation might best be pursued by questionnaire addressed to all members of the Association, and all geographers are urged to send in their suggestions for questions which might be appropriate to such a questionnaire. The Census Advisory Committee believes that it can make recommendations more confidently when it has a better understanding of which data geographers use, and how they use them.

A working party on the Census map publication program was appointed with the request that it make specific suggestions on the following matters: (1) improvement in the cartographic quality of Census maps, (2) characteristics desirable in Census outline maps, (3) cartographic quality of National Atlas sheets, and new sheets which should be added to the National Atlas series, (4) desirability and feasibility of including a Census Atlas in the 1960 Census Monograph series to be sponsored jointly by the Bureau and the Social Science Research Council, and (5) a specific list of those analytical statistical maps based on 1960 Census material which are desirable either for research purposes or for the general public. The working party was further instructed to consider other aspects of the Census map publication program which it deemed important, and suggestions will be welcomed.

Under the Chairmanship of Wilbur Zelinsky, a working party was appointed to consider methods and criteria for definition and delimitation of data collecting areas (urban, rural nonfarm, rural farm, Standard Metropolitan, Urbanized, Census Tract, Census County Division, Enumeration District, etc.). This seems an especially critical field of investigation because much geographic research is influenced--whether consciously or not--by the nature and type of areas for which data are available. The Committee urged that professional research in this field be encouraged. In particular, it is suggested that advisors of graduate students might encourage studies in the geographic significance of existing data collecting areas

and concepts, aimed at the possibility of devising better areas and concepts than we now have.

---John Fraser Hart, Chairman

AAAS Annual Meeting in Chicago

On December 26-31, 1959 the 126th meeting of the AAAS will be held in Chicago with the Morrison Hotel as the principal site. The nearby Sherman Hotel will house the science teaching societies with other headquarters sites yet to be announced. The AAG, a co-sponsor of Section E, has appointed Alden Cutshall Coordinator for geography. Arrangements are underway for an intersectional meeting on the problem of lake levels. Further details will appear in a later issue of The Professional Geographer.

Illinois Geographical Society

The new officers of the Illinois Geographical Society are: President, Mary Grant, Morton Junior College; Vice President, Edward Hamming, Augustana College; and Secretary-Treasurer, Walter McDonald, Eastern Illinois State College.

AAG Dallas Meeting

The 56th annual meeting of the Association of American Geographers will be held in Dallas from April 18 through April 21, 1960, with Southern Methodist University the host institution, and the Statler Hilton Hotel as headquarters. Edwin J. Foscue is chairman of the Local Arrangements Committee.

The program will include both invited and voluntarily contributed papers. December 1, 1959 is the deadline for receipt of abstracts by the chairman of the Program Committee, Harry E. Hoy, Department of Geography, University of Oklahoma, Norman, Oklahoma. Additional information on abstracts and their preparation will appear in the September issue of The Professional Geographer.

Four separate field trips are planned in connection with the annual meeting as follows:

(1) Urban Field Trip of Dallas, designed to give an over-all view of the industrial, commercial, and residential development of the city. This trip is tentatively scheduled for Sunday afternoon, April 17 and may be repeated on Wednesday afternoon, April 20.

(2) Arbuckle Mountains - Southern Oklahoma Field Trip. This will be a full-day trip and it is tentatively scheduled for Monday, April 18.

(3) Southwest Texas Hill Country Field Trip. This will visit the ranching and resort country to the west of Austin and San Antonio and will be for two days and one night. It is scheduled for Thursday and Friday, April 21 and 22.

(4) Gulf Coast Industrial Field Trip. This will visit Houston, Texas City, Galveston, Freeport, and the sulphur industry at Newgulf. It will be for two days and one night and is also scheduled for Thursday and Friday, April 21 and 22.

The Urban Field Trip of Dallas will be in charge of the Local Arrangements Committee, but the other trips will be in charge of a Special Field Trip Committee, whose chairman is Stanley A. Arbingast, Bureau of Business Research, University of Texas, Austin 12, Texas. Additional information on the field trips will appear in a later issue of The Professional Geographer.

---Edwin J. Foscue, Chairman
Local Arrangements Committee

AAG Central Office

Ruth Griggs resigned June 1 as Manager of the AAG Central Office to accept a secretarial position in the office of Senator Hartke of Indiana. During the summer Barbara Brown will be in charge of the Central Office, with part time help from Lois Goulart and Harold Robinson.

XIX International Geographical Congress
August 6-13, 1960 at Stockholm

Critical Dates:

November 1, 1959. Abstracts must be in the hands of the Organizing Committee of the XIX International Geographical Congress, Postfack, Stockholm 6, Sweden. They are to be typed, double spaced, limited to 250 words, and submitted in triplicate. No paper will be included in the program unless a corresponding abstract meets this deadline and is accompanied by the author's name, address, institutional connection, preference for the Commission or Section in which the paper is to be read, and dimensions of slides or description of other illustrative material.

February 1, 1960. Last date for registration. Only those who pay the registration fee of $30.00 may present papers. Registration forms will be mailed to AAG members with the Second Circular from the IGU in the near future. A deposit of $10.00 is adequate, with the balance to be paid on arrival.

April 1, 1960. Completed papers must reach the Organizing Committee. They are to be typed, double spaced, and submitted in duplicate. An additional ribbon copy should be sent to the editor of the Annals for a special issue which will include papers accepted for presentation at the Congress provided they meet requirements for the Annals.

Travel Grants:

Practically all financial aids for attending the Congress depend upon active participation on the program. The September Professional Geographer will carry details about available subsidies.

NEWS FROM GEOGRAPHIC CENTERS

Kent State University

Geographers make unique contributions to city, rural, and regional planning. The distinctive geographical point of view, dealing with areal associations and the techniques of cartographic analysis and representation are of fundamental importance to any planning project. Professional planners recognize that training in geography is an essential part of the background of those holding responsible planning positions.

With the intention of providing better training for many students interested in making planning a career, Kent State University has established, under the direction of the Department of Geography and Geology, an undergraduate curriculum in pre-planning. Relatively few such programs are in existence at the present time.

The course as planned draws heavily upon economics, sociology, architecture, political science, marketing, and geography and geology. It is not designed to turn out professional planners at the conclusion of four years of study, but to prepare students to enter professional planning courses at the graduate level at other institutions. This procedure is in keeping with current opinions expressed by many professional planners, who prefer a broad general undergraduate curriculum, with a high degree of specialization only after the attainment of the Bachelor's degree.

University of Cincinnati

The University of Cincinnati will have a new Department of Geography beginning September 1, 1959. Until now Geology and Geography have been combined in one department. Peter H. Nash has accepted the appointment of Professor and head of the new Department. Previously, Dr. Nash was Associate Professor of City and Regional Planning and Research Associate in the Institute for Research in Social Science at the University of North Carolina. He will develop especially the field of regional and city planing. The other members of the department are Professor John Wesley Coulter, Assistant Professors Laurence G. Wolf and Jordan K. Hodgkins, and Instructor William Sanders.

University of Dacca, Pakistan

The Department of Geography, one of ten departments in the Faculty of Science, is well housed in a building to which a recent addition has made for the Department of Geology. On a campus which is suffering from too small a physical plant, the Department has nevertheless been able to pro-

vide each of its staff with a separate office. In addition, it has the use of three lecture rooms, a combination seminar room-departmental library, a map room, dark room, plus an auditorium which contains a small museum, and clerical staff offices.

Geography was established at Dacca in 1947 as a small undergraduate department. It has grown into an active department offering not only the undergraduate pass courses, but also Honors courses and postgraduate work leading to the M. A. and Ph.D. degrees. The lecture method is chiefly followed in preparing students for their end-of-course examination papers. The curriculum includes field work with written reports and courses in practical geography. Weekly tutorial sessions are required for all Honors and postgraduate students. Tutorials are limited to four students and a short paper is prepared by them for each meeting. In recent years over 100 students have normally enrolled in geography, including several women. To date, most of the M.A. graduates have found employment as lecturers in the colleges of East Pakistan.

Only a limited number of reference, text, and bibliographic materials are available in the University and Science Faculty libraries. Fortunately, the Department is able to supplement these materials with a small library of its own which contains sets of the more important professional journals from south Asia, the U.K., and the U.S.A. Good topographic map coverage for East Pakistan is available, although that for other areas is limited. The wall map collection consists of approximately 50 maps covering all parts of the world. Other visual aids include projectors, filmstrips, slides, and models.

Nafis Ahmad, Head of the Department, received his Ph.D. from London in 1951. Oxford University Press has recently published The Economic Geography of East Pakistan, an adaptation of his dissertation. Other permanent staff include: A.I.H. Rizvi (Ph.D., Louisiana State University, 1955), A. H. Siddiqi (on leave working toward the Ph.D. at the London School of Economics), S.H.H. Naqavi (M.S., North Carolina, 1954), Fazle Karim Khan (Ph.D., Louisiana State University, 1958), M. Aminul Islam (M.A., Dacca, 1956), and Lutful Haq (M.A., Dacca, 1956). During 1958-59 Vincent K. Shaudys, from Montana State University, was attached to the Department as a Fulbright Lecturer, Sigismond de R. Diettrich, from the University of Florida, will serve in the same capacity for 1959-60.

The Department established The East Pakistan Geographical Society in 1955. This Society is very active in sponsoring several lectures each year and publishing the Oriental Geographer, a semi-annual publication now in volume III. Beginning in 1959 the Oriental Geographer is being published in an enlarged and improved form on high quality art paper. While its editorial policy tends to emphasize articles on East Pakistan, articles are accepted concerning research on any part of the world although preference is given to Asian regions. To date its contents have been divided about equally between articles submitted by non-East Pakistani geographers and articles about research done in the Department at Dacca. Of particular interest have been a number of detailed land-use studies of densely populated areas around Dacca.

McMaster University

Louis Gentilcore, formerly of Indiana University and Los Angeles State College, has made an important contribution to the work of our Department this year. He attended the A.A.G. meetings in Pittsburgh, and he presented a paper at the C.A.G. meetings in Saskatoon, entitled, "A Canadian Colony in Nineteenth Century California." H. R. Thompson is continuing his quantitative study of the geomorphology of the Hamilton district. The object of this research is to throw light on the relationships between climate, surface properties, and landform evolution, in both late-glacial and post-glacial times. He has also been interested in the development of a new approach to the relationship between bio-physical geography, ecology and geophysics. H. A. Wood has been studying the problem of shore erosion and is attempting to create a mathematical index of the relative rate of shoreline recession and advance, based on climatic statistics, and on principles of wave dynamics. Last summer, he toured the western U.S.A. and Mexico. This summer he continues his field work and will be traveling in the eastern U.S.A. and the West Indies. L. G. Reeds is continuing his research in the classification of agricultural land with the use of air photographs, soil and topographic maps and with field observations.

The Department has graduated 60 students from its Four Year Honours Course in the last 10 years. Of these, 32 are teaching secondary school, 1 is teaching elementary school, 3 are teaching at university level, 12 are engaged in various types of planning, 2 are working for the Federal Government, 6 are studying for advanced degrees, 3 are employed by industrial and business agencies, and 1 is a member of the Armed Services.

University of Oregon

The Department of Geography has been granted the privilege of granting the Ph.D., effective for the academic year 1960-61. The first course in geography was given here in 1925, and in 1932 a department was created offering the Bachelor and Master degrees. In 1944 Geography was combined with Geology, and in 1958 the two subjects were separated. The present staff includes Samuel N. Dicken, Professor; Clyde P. Patton, Associate Professor; Gene E. Martin and Forrest R. Pitts, Assistant Professors; and Thomas Poulson, Instructor. Dr. Patton will be giving a television course in geography next year which will be received by Oregon State College and the Oregon College of Education. Dr. Martin will be in Buenos Aires this summer on a Fulbright Scholarship.

Syracuse University

The Department of Geography at Syracuse is now constituted as follows:

Eric H. Faigle, Dean of the College of Liberal Arts; Canada, New York State.

George B. Cressey, Maxwell Professor; Asia, USSR.
Preston E. James, Professor and Chairman; Latin America, History of Geography, Teaching of Geography in the Schools.
John H. Thompson, Professor; United States, Economic, Manufacturing
Douglas B. Carter, Associate Professor; Climatology, Physical Geography.
Donald W. Meinig, Associate Professor; Historical Geography, Political, United States.
David J. de Laubenfels, Associate Professor; Plant Geography, Urban Geograpny, Latin America.
Eleanor E. Hanlon, Assistant Professor; Cartography, Conservation, Water Resources.
Peter Gould, Assistant Professor (joining staff in February 1960); Africa, Geographic Statistics, Cartography.

Ernest H. Muller of Cornell has accepted the position of Geomorphologist in Geology for next year as an Associate Professor.

During 1959 Professor James was the author or editor of four books. One was the second revised edition of A Geography of Man (Ginn), which first appeared in 1935 with the title An Outline of Geography. He also published the third edition of Latin America (Odyssey Press). With Nelda Davis he is the author of a new ninth grade text The Wide World, A Geography (Macmillan). He was the editor of the 29th Yearbook of the National Council for the Social Studies, New Viewpoints in Geography. John H. Thompson and James M. Jennings were the authors of Manufacturing in the St. Lawrence Area of New York State. Doublas Carter continued to publish studies of water balance with C. W. Thornthwaite. George B. Cressey has been completing the manuscript of his new book on Southwest Asia. Hibberd V. B. Kline, Jr., Don C. Bennett, and Vincent Mazzucchelli completed work on a contract study of Tropical Terrain Analogs. Eleanor E. Hanlon was chairman of the committee on Public Understanding at the Sixth National Watershed Congress in Washington, D. C. She is co-editor with Robert J. Rayback of the New York State Atlas, to be published in August 1959. Richard E. Lonsdale has a Ford Foundation Fellowship for overseas study. Clarence Minkel, Jerold Widdison, and Flora Jordan are Watson Fellows for 1959-60. Mr. Minkel completed a study in Venezuela and returned to Syracuse University to finish his dissertation.

PERSONAL NEWS

Marguerite Logan has retired from Western Michigan University where she has been teaching since 1930.

Joseph A. Russell has been named Chairman of the University of Illinois Committee on Aerial Photography which has announced the establishment of an Air Photo Repository to collect, store, and reproduce aerial photos for research and teaching purposes.

John Fraser Hart has been awarded a Fulbright grant to lecture on Population and Settlement Geography (with emphasis on the United States) at the University of Lille (France) for the five months beginning 1 February 1960.

Eric H. Faigle, Dean of the Syracuse University College of Liberal Arts and School of Speech and Dramatic Art, has been awarded the highest alumni honor, the George Arents Pioneer Medal for "excellence in education." His many contributions to the progress of the Department of Geography were among the achievements cited.

Esther S. Anderson of the Bureau of the Census and formerly at the University of Nebraska, has been elected the national president of Sigma Delta Epsilon, Graduate Womens Scientific Research Fraternity. She is also listed in the first volume of "Who's Who of American Women."

Ena L. Yonge, Curator of Maps at the American Geographical Society, and Bill M. Woods of the Map Division of the Library of Congress, each received an award from the Special Libraries Association for outstanding contributions to the special field of geography and map librarianship.

Hans Carol, Zurich University, will stay for his second academic year, 1959-60, as visiting professor at Clark University.

Wilbur Zelinsky will join the staff of Southern Illinois University in the fall.

Robert G. Buzzard, president emeritus of Eastern Illinois University, will join the staff of Arizona State, Tempe in the fall after two years as visit-professor at Southern Illinois University.

Franklin Stern is a new addition to the staff of Rhode Island College of Education.

John Hopkins is Assistant Professor at Winona State College, Minnesota. Luther Gulick of the same staff has a Fulbright to spend the year in West Pakistan.

Carl Swisher has left teaching to go into business for himself in Yakima, Washington.

Burton W. Adkinson, National Science Foundation, has been elected President of the Special Libraries Association.

NEW PUBLICATIONS

The Status of World Health - In Outline Text and Chart. Senate Report No. 161, 86th Congress, 1st Session. Government Printing Office. Washington, D.C. April 1959. 80pp. illust. $1.25.

This is the third in a series of world health study publications by the Senate Subcommittee on Reorganization and International Organizations headed by Senator Hubert H. Humphrey. The Report was prepared by the Public Health Service with the cooperation of various national and international health agencies. Intended as a condensed, overall view of world health problems, the charts and accompanying brief texts present essential background data in connection with the world health study. The report is divided into four sections - the first dealing with regions and population; the second with health indicators, as life expectancy, infant mortality and crude annual death rates; the third, with specific disease problems - the 19 most widespread diseases, (with the exception of diarrheal diseases and upper respiratory infections) presenting the data by graphs, charts, maps and tables using a minimum of narrative comment; and lastly, the health resources based on the trained health personnel, the health and hospital centers.

The primary map sources were from the Atlas of Diseases by the American Geographical Society, World Population and Production by W. S. and E. S. Woytinsky, Global Epidemiology, volume II by Simmons and others, the Statistical Office of the United Nations and various technical papers, scientific journals and the records of the Public Health Service. By the use of the geographic materials this report effectively summarizes the status of world health as well as giving geographers an insight into the value of maps in senatorial reports.

---Catherine I. Bahn

Alaska: The Big Land. Ben Adams. Hill & Wang, Inc. New York. 1959. x and 213 pp. illust. $3.95.

This interesting and easily readable volume presents a wealth of geographical and historical information concerning our 49th State. Not planned as a text, The Big Land contains a collection of chronological descriptive data on Alaska which will provide teachers, writers, and speakers with valuable and useful sidelights to enliven their presentations.

The discussion of the Aleuts and Eskimos will be particularly helpful to those who work with problems of dependent peoples. Political geographers will be sympathetic to the complex problems described by the author in "streamlining a rather unwieldly, jerry-built apparatus and eliminating overlapping functions of state and federal government." Economic geographers will be interested in "the long-range problem of developing the economic policies which will help Alaska grow and realize the potential of its vast natural resources."

Mr. Adams emphasizes the role the new State's 100,000,000 acres of public land may play in the potential development of Alaska. He dwells on the competition and oftentimes rivalry between private interests, which have opposed restrictions on the exploitation of Alaska's wealth, and the Federal government, which has been pledged to conserve rather than to exploit it ruthlessly. Now the new State must meet head-on the issue of whether it is possible to make Alaska's resources available for economic development without "squandering and destroying them." Statehood architects removed many of the discriminations and limitations that had curbed Alaska's progress in the past. The Legislature is developing safeguards against reckless exploitation of resources. Alaskans are recognizing this responsibility as they take their first forward steps within the Union.

Geographers are interested in Alaska as the last frontier not only because much of it is wild and unpopulated and conditions of life are still often rugged, but also because it offers the challenge and rewards of a new country.

The Big Land is well illustrated and contains a number of hints for travelers, names of recommended hotels and motels, and several reference books for those who plan to see the 49th State firsthand.

---J. L. Taylor

From the Ends of the Earth. Augustine Courtauld. Oxford University Press. New York. 1958. xvi and 423 pp. $4.75.

This "anthology of polar writings" includes selected passages from works that span the 30 centuries of man's thoughts and records on the polar regions. It starts with excerpts from Homer's Odyssey, Strabo's The Geography, Wynkyn de Worde's The Golden Legend and Beamish's The Discovery of America by the Northmen; passages from a time of legends and heresay. The 9th and 10th century journeys of the Vikings added a modicum of knowledge about arctic lands and a host of sagas, the source of extracts depicting Norse discoveries in Iceland, Greenland, and North America. The time of "merchant adventurers," up to the 19th century, saw Cabot, Frobisher, Davis, Hudson, and many others penetrate the "Artick frozen zone," face unknowns and hardships, endure misfortunes, seek in vain vast riches and passages to the Orient, and write full and detailed journals. Extracts from these narratives provide more than information on what was seen and done; they also are an insight into the philosophies, motives, and points of view of these hardy explorers. Search for a Northwest Passage continued through the 19th century, and more and more of the arctic became known through various naval expeditions and through the searches for the unfortunate Franklin expedition. Passages from journals and diaries of this period graphically reveal the extent to which "bad luck" (mainly ignorance and a refusal to adapt to the environment) plagued these stalwarts. At the same time, they relate much of what was learned about the Eskimos. Finally, in the early 20th century both poles were reached and the basic exploration was largely accomplished, as illustrated by extracts from accounts by Peary, Nansen, Scott, and others. Although nothing is included about explorers in the past 20 years, and many earlier ones

are omitted, this is only a partial handicap to a book not intended as a history. It succeeds in its objective of giving flavor and meaning to polar exploration.

The Art of Navigation in England in Elizabethan and Early Stuart Times. D. W. Waters. Yale University Press. New Haven. 1958. xxxix and 696 pp. illust. $12.50.

The decision of England in the middle of the 16th century to augment trade activities which to that time had been fairly confined to northwestern Europe, and to reap rewards from the discovery and exploitation of new lands, such as were already accruing to Spain and Portugal, found the English without knowledge of navigation beyond the art of pilotage and without ships capable of ocean voyages. So they hastily set about building ships and learning about navigation from the Spaniards and others. Soon they were in a position to extend, improve and simplify their acquired knowledge, and to develop more accurate instruments and other navigational aids. Navigation was rapidly changed in a span of 80 years from an art to a science. How this change came about, who was involved, what applications and amplifications were made of the new knowledge during exploration and colonization activities, and the implications of contributions during this period of startling advances in navigational techniques, are described in fascinating detail. The author draws heavily upon the written works of the period so as to relate the information in the words of the participants. Copious footnotes, numerous illustrations of charts and instruments, an extensive bibliography and a detailed index help to make this a most useful and informative reference.

U. S. Navy Marine Climatic Atlas of the World: Volume IV - South Atlantic Ocean. NAVAER 50-1C-531. 1 September 1958. U. S. Government Printing Office. Washington 25, D. C. xvii and 267 pp.

This graphic climatic reference, the fourth in a series that already includes volumes on the North Atlantic Ocean, North Pacific Ocean, and Indian Ocean, was prepared under the supervision of the Naval Weather Service Division of the Office of the Chief of Naval Operations by the Department of Commerce, U. S. Weather Bureau. Both surface and upper air information is shown by means of graphs and isopleths. Surface elements are plotted on 144 charts (12 for each month), and include individual presentations of data on surface winds, gales, visibility, precipitation, cloudiness, wind-visibility-cloudiness, dew point, temperature, wet bulb temperature and wind speed, sea level pressure, and air-sea temperature differences. By means of graphs, roses, and isopleths, data are presented on frequency distributions as well as on observed values. Wind direction is combined with precipitation, visibility, low cloud amount, wind force and air temperature in ways most meaningful to air mass climatology.

Data from upper air observations are plotted on 3-month seasonal charts. Five elements; wind aid (wind component increasing aircraft ground speed), wind retard, wind direction and speed, height of pressure surface, and temperature and humidity, are plotted for the 850 mb, 700 mb, 500 mb,

300 mb, and 200 mb levels. In addition, there are charts showing modified refractive index, inversions, height of tropopause, height of freezing level, and potential aircraft icing.

The Upper Atmosphere. H. S. W. Massey and R. L. F. Boyd. Philosophical Library, Inc. New York. 1959. xii and 333 pp. illust. $17.50.

Something is known and much is suspected about the relations between outer space phenomena and terrestrial phenomena. As more becomes known about the properties and activities of the upper atmosphere through space probes and artificial satellites, it becomes increasingly apparent that these possible relations should not be overlooked in efforts to understand and explain many of the puzzling events and observable facts on the earth. Up-to-date background information on what is known about the characteristics of the upper atmosphere is presented in this volume in a most readable form by two very capable authorities. They recognize that the reader may have forgotten, or possibly never knew, concepts in the branches of physics relevant to the subject, so they start with a brief review of fundamentals of electricity and magnetism, wave motion, and atoms and molecules. This is followed by an introduction to the upper atmosphere, its composition and characteristics, and the equipment and methods of obtaining and interpreting data. Several chapters are then devoted to an extensive consideration of the phenomena of the outer spaces and their influences. Particular attention is given to the sun and the ways in which its activity affects the earth's environment. Individual chapters deal with the ozonosphere and ionosphere, night glows and aurora, atmospheric tides, magnetic and other disturbances, meteors, and cosmic rays. Much of this information was admittedly obtained as a result of advances in rocketry, but rockets have limitations, many of which may be overcome by using artificial satellites as research vehicles. A chapter, therefore, is given to a description of these satellites and their scientific uses, not only for study of the upper atmosphere, but also for looking back at the earth. The book closes with recommendations for future research.

Water For Your Ever-Expanding Needs. Delaware River Basin Research, Inc. Philadelphia. 1959. 20 pp. illust.

This booklet briefly describes the Delaware River Basin, its water resources, man's water requirements, and plans to develop and control the water resources of the Delaware. Free copies are available from the Director of Information, Delaware River Basin Research, Inc., 928 Suburban Station Building, Philadelphia 3, Pennsylvania.

Guide to the Manuscript Maps in the William L. Clements Library. Christian Brun. University of Michigan. Ann Arbor. 1959. xiii and 209 pp. illust. $4.00.

Historical geographers, librarians, and, in fact, all scholars concerned with maps, will welcome this opportunity to learn of the manuscript map resources of the William L. Clements Library of the University of

Michigan. Information on manuscript maps is hard to come by because they are rarely catalogued, and end up being "the bibliographic orphans of the cartographic family." This book describes some 800 manuscript maps, listed in an arrangement that starts with maps of North America and Canada, then by states south along the Eastern Seaboard, west across the Gulf to the Mississippi, north to the Old Northwest, and then the American Southwest. This is followed by listings of a few maps on Central America, the Caribbean, South America, and Asia. Most of these manuscript maps originated as military documents, and are described as showing topographic information as well as details of fortifications, settlements, landuse, and roads and other cultural features. Since arrangements can be made with the Director of the Library to obtain photoduplicates of the manuscript maps, this Guide opens up a rich resource of research materials.

Dictionary of Astronomy and Astronautics. Armand Spitz and Frank Gaynor. Philosophical Library, Inc. New York. 1959. vi and 439 pp. illust. $6.00.

Writings on the Space Age introduce many unfamiliar terms, so non-specialists in the fields of astronomy, astrophysics, and astronautics should welcome this reference dictionary. It lists alphabetically more than 2,200 terms and concepts with clear, understandable definitions. The text is supplemented with graphs and tables. The authors are especially qualified to prepare this dictionary. Armand Spitz is the Coordinator of Visual Satellite Observations for the Smithsonian Astrophysical Observatory, and Frank Gaynor is author of Encyclopedia of Atomic Energy.

Physical Climatology, 2d Edition. Helmut Landsberg. Gray Printing Co., Inc. DuBois, Penna. 1958. 446 pp. illus. $6.00.

Originally a slim volume that was reprinted several times after its appearance in 1941, Landsberg's Physical Climatology has now been revised and greatly enlarged. Most sections of the new edition are lengthened by insertion of new sentences, paragraphs, tables or figures from the literature produced by the again productive field of climatology. There are new sections on the normal distribution, extreme values, machine methods, and climatic aids to forecasting. New material on synoptic climatology is added to the air-mass section; climatic classification is illustrated by six systems instead of Koppen's alone; material and maps from recent hurricane research are presented; and an enlarged discussion of the water balance takes advantage of hydrologic interest in evapotranspiration and soil-moisture storage. The heat balance continues to receive full attention, though one might wish that the fine map of sunshine distribution over the world had a better reproduction, and that the publisher had provided more proofreading.

The old section on "artificial climate" becomes the new one on 'climatic control' at three times the size, and includes modification of macro-climates as well as the successively smaller-scale forms in orchards, shelterbelts, storage areas, and other man-made structures. This section is the culmination of a series on geographic factors that form climate, beginning with

world and regional climates and working down to local climates in forests, mountains and settlements, and spot climates.

While this edition has many more references than the first, there happens to be about the same distribution by language - 72 per cent in English, 23 per cent in German; the rest in French and Russian. The percentage occurrence of American papers is slightly smaller, perhaps reflecting a feeling that an audience more sophisticated climatologically than in 1941 does not need so many home-town illustrations to keep it interested. One might wish, however, that the author had felt enough further confidence in his readers to include the more classic studies in physical climatology, such as those by Voeikov on snow cover and topographic influences, Leighly on lake influence and delay in phase of the annual march of temperature, and Homen on heat storage; and perhaps have made reference in the text (as well as in the preface) to Conrad's and other parts of the Koppen-Geiger Handbuch. However, omissions are few, and this second edition is a good round-up of the periodical literature in which climatologists find their outlet, when they publish.

Geographers will find this book useful in bringing out relations between landscape and climate. It stresses the heat and moisture balances, and other ways in which terrain influences climate from the planetary distribution of land and water down to micro-environments. In addition to geographic classifications, the distributions of many simple and composite elements are shown by maps. Affiliations of climatology with geography are as well treated as those with meteorology.

---David H. Miller

Canal Zone Analogs. Quartermaster Research & Engineering Center, Environmental Protection Research Division. Natick, Massachusetts. 1958.

A series of six reports has been issued, comparing the climate of the Canal Zone with climates of other tropical areas in terms of temperature, precipitation, humidity, cloud cover, and wind speed. The information is presented in texts, tables, and 14 maps in each report. The reports are: I (Technical Report EP-87, April 1958) Analogs in Middle America, by Jack V. Chambers and James M. Blaut; II (Technical Report EP-91, June 1958) Analogs in India and Southeast Asia, by Will F. Thompson, III (Technical Report EP-90, June 1958) Analogs in East Central Africa by Walter Beale Blair; IV (Technical Report EP-93, July 1958) Analogs in West Central Africa by Will F. Thompson; V (Technical Report EP-94, July 1958) Analogs in South Central Africa and Madagascar by W. B. Blair; and IV (Technical Report EP-97, September 1958) Analogs in South America by W. F. Thompson. A limited supply of these reports is available free from the publisher.

MD Medical Newsmagazine, Vol. 3, No. 4, April 1959. 30 East 60th St. New York 22, N. Y. $1.00.

This issue emphasizes the relationship of geography and medicine. The cover is a colored reproduction of Theodore de Bry's Map of the Carib-

bean area, 1591. The principal article is "Geography and Medicine", pp. 80-87, dealing with the fascinating interplay of ecology and disease. Shorter articles of geographical interest include "MD's Medical Geography" dealing mainly with Japan (p. 74), "Devil's Mountain Doctor" describing medical work in Ethiopia (pp. 41-43), "Space Medicine" (p. 63), and "Synthetic Geography" (pp. 106-8) telling how film studios simulate, adapt and alter geographic settings for motion pictures.

---Arch C. Gerlach

Social Stratification in Polynesia. Marshall D. Sahlins. The American Ethnological Society. University of Washington Press, Seattle, 1958, xiii and 306 p. $4.50.

On the basis of an examination of 14 pre-European Polynesian island cultures, common in origin but found in diverse environments, the author classified the degree of social stratification in Polynesian cultures. He believes he has demonstrated that social stratification varies both in degree and form according to ecological conditions. Other factors being constant, the degree of stratification varies directly with productivity, a conclusion that seems to support the thesis of environmental determinism. The measure of productivity is taken to be "the magnitude and frequency of the collection and redistribution of the same goods -- since in Polynesia, surplus production was distributed from a central agency." The book details the data supporting these postulates.

The author found three types of systems of social organizations occurring in Polynesia: the ramage (ramified-genealogical) and the descent-line organizations on high islands, and the looser atoll organization. The ramage systems were associated with the distribution of rich resource zones, a tendency toward familial specialization or production, and, usually, scattered settlement. Descent-line systems were associated with clustered exploitation zones, familial self-sufficiency and village settlements. Atolls, being the least productive of the islands, were the least stratified. Among the latter, those that had a longer period of occupancy, such as Pukapuka and Ontong Java, had more complex, cross-cutting organizations. The author felt that his data validates the thesis that "adaptation is thereby seen to be a major orienting factor in cultural evolution, as it is in biological evolution."

---Herold J. Wiens

Techniques of Population Analysis. George W. Barclay. John Wiley & Sons, Inc. New York. 1958. xiii and 311 pp. Charts. $4.75.

As the title implies, this volume is not a treatise covering the entire field of demography but rather a guide to the statistical techniques currently applied to defining and measuring population characteristics for any nation for which data are available. The author assumes no previous training in demography on the part of the reader and only a modest level of mathematical attainment; but his probings into the rationale, precise meaning, and limitations of the various concepts explored are highly rigorous and not recommended for the idly curious reader. The population geographer

who masters the contents of this work will be equipped to handle almost any of the highly technical literature of demography; but most non-demographers will find it useful primarily as a reference volume to be used selectively in solving specific questions of definition and procedure. As such, its compactness, inclusiveness, and up-to-dateness are highly commendable and unequalled by several earlier and usually more specialized works.

The volume opens with a chapter briefly defining the field of demography and characterizing the principal sources of data, and concludes with a short bibliographical chapter. The 8 intervening chapters are concerned with the meaning and utility of the various kinds of rates and ratios used by the demographer, detection and circumvention of inaccuracies in basic data, construction and application of the life table, various measures employed in describing mortality and trends therein, several methods devised to determine fertility, a penetrating essay on statistical concomitants of various kinds of population growth and on the methods used to project future populations, definition and gauging of migration, and statistical means for describing the attributes of a nation's labor force. The discussion is often accompanied by statistical examples drawn from many different countries. The finer details of computation are elucidated in the appendices.

---Wilbur Zelinsky

The Geography of Air Transport. Kenneth R. Sealy. Rinehart & Company, Inc. New York. 1958. 207 pp. $1.50.

In this compact, readable book, Kenneth R. Sealy has added air transportation to the subdivisions of geography treated in the Hutchinson Library series. Although the book suffers from the budgetary problems of brevity and skimpy map coverage common to many others in the series, it nonetheless achieves its avowed end in providing the geography student with a generalized introduction to a relatively new field. The first three chapters deal with background phenomena: maps in an air age, the physical geography of aviation and the technical and economic background. The next four chapters deal with route patterns, on a world scale as well as on European, American and Canadian scales. A final somewhat perfunctory chapter deals with airports.

For the teacher of geography, Sealy's book provides both some practical illustrations from the field of aviation useful in the introductory teaching of map projections and meteorology, and some interesting route pattern generalizations which represent an improvement over those current in economic geography textbooks. For the serious student of transportation geography, Sealy's lack of penetration into the field is something of a handicap. Many of the route pattern generalizations are questionable; the section on technical and economic background is weak; and the development of air transportation within Asia, Africa and Latin America is not discussed. The book does provide a nicely condensed summary of some existing studies of European and North American air transportation, however, and the author's willingness to generalize on meager evidence should have a stimulating effect on more specialized future investigation.

---Edward J. Taaffe

Date _____

The Secretary,

ASSOCIATION OF AMERICAN GEOGRAPHERS:

I wish to apply for membership in the Association of American Geographers, and submit the following information to support my application.

(Check below the category which fits your situation most closely, and fill in the accompanying blanks.)

☐ ASSOCIATE (Annual dues $15.00 U.S.)

Associate membership is accorded to applicants who are actively interested in the aims and objectives of the Association but who do not meet the qualifications for Membership as set out below. Please fill in such blanks below as may be applicable, striking out the word *geography* if necessary and substituting an applicable alternative subject. If the space provided in the blanks is insufficient for the data in your case, write on a separate page.

☐ MEMBER (Annual dues $15.00 U.S.)

☐ A.–A Ph.D. in Geography

Institution _____ Date _____

Title of dissertation _____

_____

Supervisor of dissertation _____

☐ B.–A Masters degree in Geography, *followed by* at least one year's full-time service as a professional geographer.

Institution _____ Date _____

Supervisor of Graduate Study _____

Employment record since receiving Master's degree:

Title of position(s) _____

Bureau, agency, firm or school, and *dates* of employment _____

_____

Supervisor (or a geographer familiar with your work) _____

_____

Nature of duties _____

_____

☐ C.–A Bachelor's degree with a major in Geography, *followed by* at least 3 years of full-time service as a professional geographer.

Degree, date and institution _____

_____

Title of position _____

Bureau, agency, firm or school, and *dates* of employment _____

_____

_____

Supervisor (or a geographer familiar with your work) _____

_____

Nature of duties _____

_____

Use an extra sheet if more than one position has been held.

☐ D.–No degree in Geography—but have made significant professional contribution in the field of Geography.

1. Contributions to geographical knowledge *(research, publication, exploration, etc.)*

   Describe and cite specific reference on separate page.

2. List the names of *two* professional geographers who are acquainted with the work you have done:

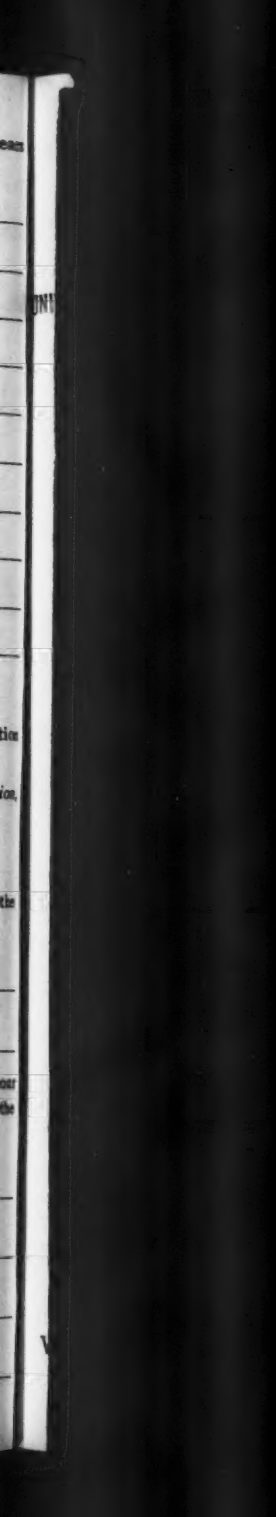
   _____

   _____

3. Academic training—fill in any of the categories above which apply to your case, striking out the word *geography* where necessary and substituting the applicable alternative subject.

Signature _____

Mailing address: Name _____

Street _____

City _____ Zone ___ State _____